

CLAIMS

1. An electroconductive resin composition,
comprising at least:

a multi-component polymer-type resin
5 binder (A) comprising a dispersed phase and a continuous
phase, and having a number-average particle size of
dispersed phase of 0.001-2 μm , and

an electroconductive material (B) in the
form of powder and/or fiber.

10 2. An electroconductive resin composition
according to claim 1, wherein the component (A)
constitutes 40-2 mass%, and the component (B) constitutes
60-98 mass%, based on the total amount of (component
(A) + component (B)) of 100 mass%.

15 3. An electroconductive resin composition
according to claim 1 or 2, wherein the number-average
particle size of the dispersed phase in the component (A)
is smaller than the number-average particle size or
number-average fiber diameter of the component (B).

20 4. An electroconductive resin composition
according to any of claims 1-3, wherein at least one
component contained in the component (A) is an elastomer
component.

25 5. An electroconductive resin composition
according to any of claims 1-4, wherein the component (A)
comprises 1-99 mass% of a thermoplastic resin, and 99-1
mass% of an elastomer.

30 6. An electroconductive resin composition
according to any of claims 1-5, wherein the component (A)
comprises a composition of a polyolefin, and one or
plural kinds selected from: hydrogenated styrene-
butadiene rubber, styrene-ethylene-butylene-styrene block
copolymer, styrene-ethylene-propylene-styrene block
copolymer, crystalline olefin-ethylene butylene
35 crystalline olefin block copolymer, styrene-ethylene-
butylene-crystalline olefin block copolymer, styrene-iso-
styrene block copolymer, styrene-butadiene-styrene block

copolymer.

7. An electroconductive resin composition according to any of claims 1-5, wherein the component (A) comprises at least a polyvinylidene fluoride and a soft acrylic acid resin.

8. An electroconductive resin composition according to any of claims 1-7, wherein the component (B) comprises at least one kind selected from: metallic materials, carbonaceous materials, electroconductive polymers, and fillers coated with a metallic material, or metallic oxides.

9. An electroconductive resin composition according to any of claims 1-8, wherein the component (B) is a carbonaceous material including boron in an amount of 0.05-5 mass%.

10. An electroconductive resin composition according to any of claims 1-9, wherein the component (B) comprises 0.1-50 mass% of vapor-phase grown carbon fiber and/or carbon nanotube, based on the mass of the entire component (B) including the vapor-phase grown carbon fiber and/or carbon nanotube per se.

11. An electroconductive resin composition according to any of claims 1-10, wherein the vapor-phase grown carbon fiber or carbon nanotube contains boron in an amount of 0.05-5 mass%.

12. An electroconductive molded product, which has been obtained by molding an electroconductive resin composition according to any of claims 1-11.

13. An electroconductive molded product according to claim 12, which has a volume resistivity of $0.1 \Omega\text{cm}$ or less, a contact resistance of $0.1 \Omega\text{cm}^2$ or less, and a penetration resistance of $0.1 \Omega\text{cm}$ or less.

14. An electroconductive molded product according to claim 12 or 13, which has a heat conductivity of $1.0 \text{ W/m}\cdot\text{K}$ or more.

15. A fuel cell separator, which has been obtained

by using a molded product according to any of claims 12-14.

- 5 16. A fuel cell separator according to claim 15, which has four or more through-holes, has a groove having a thickness of the thinnest portion thereof of 0.1-2 mm, and a depth of 0.1-1.5 mm, and has a volume resistivity of 0.1 Ωcm or less, a contact resistance 0.1 Ωcm^2 or less, a heat conductivity of 1.0 W/m·K or more, and a gas permeability of 1×10^{-6} cm/sec or less.